Ridges on the Coin

Engineering Institutions That Cynical Operators Cannot Exploit

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Part of the collection

Patterns of Power: Systematic Analysis of Elite Control Mechanisms Across Civilizations

Abstract

The preceding papers in this series have established a structural diagnosis. Advanced civilization requires hierarchical coordination. Hierarchy creates positions of authority. Positions of authority attract cynical operators who exploit them for personal gain. Revolutions that destroy captured hierarchies must rebuild them to prevent societal collapse, and the rebuilt hierarchies are captured again. The cage is permanent. The question is not how to escape it but how to build one that is harder to exploit.

This paper argues that the answer is not ideological but engineering. It draws on a seventeenth-century precedent—John Locke's involvement in the Great Recoinage of 1696—to propose a paradigm for institutional design. When English coins were being clipped and debased by opportunists, Locke did not attempt to reform human nature, did not call for harsher punishment, and did not demand that citizens become more virtuous. He put ridges on the coins. The ridges made it structurally impossible to clip a coin and pass it at full value, because the missing ridges would expose the fraud. The problem was not solved by changing people. It was solved by changing the architecture of the object people interacted with.

The paper argues that constitutional liberal democracy—specifically the tradition descending from the English constitutional settlement, through Locke's political philosophy, to the American Constitutional Convention of 1787—represents the most sophisticated attempt in human history to put ridges on the institutions of governance. It was designed not by utopians who believed in human perfectibility but by practical men who understood power, feared its concentration, and engineered structural constraints that would limit exploitation regardless of who occupied the positions of authority. The paper then argues that the current international order—the United Nations system—structurally resembles the Articles of Confederation that preceded the American Constitution: a voluntary association of sovereign states with no enforcement power, no independent revenue, and no capacity to constrain member states that violate its principles. It concludes by exploring what a global constitutional framework with institutional ridges might look like.

I. The Lockean Insight: It Is an Engineering Problem

In the 1690s, England faced a monetary crisis that threatened to collapse the economy. The nation's silver coinage was in disastrous condition. Coins produced before 1662 had been struck by hand, with irregular edges that invited a specific form of fraud: coin clipping. Opportunists would shave thin slivers of silver from the edges of coins, accumulate the shavings, melt them down, and sell the silver—while passing the now-lighter coins at their original face value. By the mid-1690s, the problem had reached catastrophic proportions. Estimates suggest that the clipped coins in circulation had lost between twenty and fifty percent of their original silver content. Only one coin in every two thousand was judged to be at its proper weight.

William III convened a Commission on the Coinage that brought together the greatest minds of the era: Isaac Newton, John Locke, Edmond Halley, Charles Montague, William Lowndes, and Charles Davenant. The debate that followed was substantive and contentious—Lowndes favored devaluation, Newton sought to fix the gold-silver ratio, Davenant advocated expanding credit. But the solution that ultimately prevailed addressed the structural problem at its root. The new coins would be machine-struck with milled edges—fine, diagonal reeding that made any clipping immediately visible. A clipped coin with damaged ridges could not be passed at full value because the missing pattern announced the fraud.

This is the insight that matters for our purposes, and it is worth stating with precision because it contains the entire philosophy of institutional design that this paper advocates.

The men who put ridges on English coins did not attempt to solve the problem by making people more honest. They did not launch a moral campaign against greed. They did not establish educational programs to teach citizens the importance of monetary integrity. They did not increase penalties for coin clipping—the penalty was already death, classified as high treason, and it had failed to deter the practice. Men and women were being hanged and drawn for clipping, and the clipping continued because the incentive structure made it profitable and the smooth-edged coins made it possible.

What the recoinage accomplished was something fundamentally different. It changed the architecture of the object itself so that the exploitative behavior—which the designers fully expected would continue because human nature had not changed—would be rendered structurally ineffective. A cynical operator encountering a ridged coin could still want to clip it. He could still possess the tools. He could still have the same moral character as every coin-clipper who had preceded him. But he could not clip the coin and pass it at full value, because the architecture of the coin had made the fraud self-revealing.

This is not utopianism. It is not idealism. It is engineering. And the distinction between engineering and idealism is the most important distinction in political theory, because it determines whether your solutions depend on conditions that will never exist (universal human virtue) or conditions you can actually create (structural constraints on exploitative behavior).

II. The Liberal Democratic Tradition: Elites Engineering Against Elites

The tradition of constitutional liberal democracy that emerged from seventeenth- and eighteenth-century England and found its most elaborate expression in the American Constitution of 1787 was not designed by idealists. It was designed by men who understood power from the inside, because they possessed it.

This is commonly misunderstood. The popular narrative presents the Founders of the American Republic as visionaries inspired by Enlightenment ideals of human equality and natural rights. They were that, in part. But they were also, and more importantly for our purposes, members of a propertied elite who had studied the history of elite capture with considerable care and who were terrified—not of the common people, though they had concerns there too—but of what other elites would do with concentrated power. They were men who had read their Thucydides and their Tacitus. They knew what Caesar had done to the Roman Republic. They knew what Cromwell had done to parliamentary government. They knew what the Stuart kings had attempted with absolute monarchy. They understood, from direct experience with the British Crown, how positions of authority attract individuals who will exploit them.

The Constitution they produced is best understood not as a statement of ideals—the ideals are in the Declaration of Independence—but as a piece of institutional engineering. It is a machine designed to function even when operated by people who are trying to break it. And this is precisely what makes it relevant to the structural analysis developed in this paper series.

What the Founders Were Engineering Against

The companion papers in this series, particularly *Elite Darwinism* and *The Cage Rebuilt*, demonstrate that positions of authority in any hierarchy are systematically captured by cynical operators—individuals who seek power not to serve the institution's stated purpose but to exploit the trust, information advantages, and coercive capacity that the position carries. The Founders of the American Republic did not use this terminology, but they understood the dynamic with complete clarity.

James Madison, the Constitution's principal architect, stated the problem in Federalist No. 51 with a concision that could serve as the epigraph for this entire paper series: "If men were angels, no government would be necessary. If angels were to govern men, neither external nor internal controls on government would be necessary." The entire constitutional architecture flows from the recognition that men are not angels—that the people who will occupy positions of governmental authority will include cynical operators who will attempt to exploit those positions—and therefore the positions themselves must be engineered so that exploitation is structurally constrained.

This is the Lockean coin-ridge philosophy applied to governance. You do not make the coin-clipper honest. You put ridges on the coin. You do not make the president virtuous. You give him a four-year term, subject him to election, check his power with an independent legislature and judiciary, guarantee a free press that can expose his actions to public scrutiny, and distribute authority across multiple competing institutions so that no single position accumulates enough power to be worth capturing in the way that, say, the Roman consulship was worth capturing once it could be converted into dictatorship.

The Specific Ridges

The American Constitution contains a set of structural features that, read through the lens of this paper series, constitute institutional ridges—design elements that constrain the ability of cynical operators to exploit the positions they capture.

Separation of powers distributes governmental authority across three co-equal branches—legislative, executive, judicial—each with distinct functions and independent bases of legitimacy. This is a direct structural response to the capture problem. A cynical operator who captures the presidency cannot legislate, because that power belongs to Congress. A cynical operator who captures Congress cannot enforce the laws selectively for personal benefit, because enforcement belongs to the executive. A cynical operator who captures either political branch cannot rewrite the fundamental rules, because judicial review reserves that function to the courts. No single captured position provides enough power to convert institutional authority into personal domination.

Federalism distributes authority vertically as well as horizontally, dividing power between national and state governments. This creates redundant constraints: a cynical operator who captures the federal government faces independent state governments that retain their own police powers, courts, and regulatory authority. A cynical operator who captures a state government faces a federal government with the constitutional authority to enforce individual rights against state action. The system does not require that either level of government be virtuous. It requires only that they be rivals—that each level's institutional self-interest motivates it to check encroachments by the other.

Regular elections create periodic accountability moments that no other system in human history had institutionalized as a structural feature of governance. The four-year presidential term, the two-year House term, the six-year staggered Senate term—these are not merely democratic niceties. They are institutional ridges. A cynical operator who captures the presidency knows that in four years, he must submit his performance to public evaluation. He cannot convert the position into permanent personal authority because the architecture of the position includes a built-in expiration date. This does not prevent a president from exploiting his term—it constrains the time horizon of exploitation and creates a structural mechanism for removal that does not require revolution.

The Bill of Rights constitutes a set of structural constraints on governmental power that operate regardless of who holds that power and regardless of democratic majorities. Freedom of speech means that a cynical operator who captures the government cannot suppress the information flows that might expose his exploitation. Freedom of the press means that independent information channels survive the capture of governmental authority. The right to assemble means that the population retains the capacity to organize collectively against captured institutions. Due process means that a cynical operator cannot simply eliminate rivals through arbitrary imprisonment. These are not aspirational ideals. They are structural features—ridges on the institutional coin—that limit what a captured position can do.

An independent judiciary with life tenure and salary protection is perhaps the most sophisticated ridge in the constitutional design. By insulating judges from electoral

pressure and executive retaliation, the system creates a branch of government whose institutional incentives are structurally different from those of the political branches. Judges do not need to build patronage networks to retain their positions. They do not need to win elections. Their institutional self-interest lies in maintaining the authority of the judiciary itself—which depends on public perception that the courts apply law rather than serve political interests. This does not make judges angels. But it changes the incentive structure they operate within, which is all that institutional engineering can do.

III. The Honest Assessment: Where the Ridges Have Failed

If this paper were merely an argument that liberal democracy has solved the problem of elite capture, it would be dishonest and it would be wrong. The American constitutional system contains remarkable institutional engineering, but it also contains failures, compromises, and vulnerabilities that the structural analysis of this series illuminates clearly.

The Constitution was designed by elites, and some of its features were ridges protecting elite interests rather than constraining elite exploitation. The original document counted enslaved people as three-fifths of a person for purposes of apportioning representation—a provision that amplified the political power of slaveholding states. Property qualifications for voting excluded the majority of the population from the democratic accountability that was supposed to serve as a check on governmental power. The Electoral College and the original appointment of Senators by state legislatures were mechanisms that insulated elite authority from direct popular accountability. Women were entirely excluded from the political process. These were not oversights. They were features—ridges designed to protect the interests of the propertied class that designed the system, even as that system constrained what any individual within that class could do with captured governmental authority.

The history of American constitutional development is, in significant part, the history of adding ridges that the original design omitted and removing ridges that served elite capture rather than constraining it. The Thirteenth Amendment abolished slavery. The Fourteenth imposed equal protection. The Fifteenth prohibited racial restrictions on voting. The Seventeenth provided for direct election of Senators. The Nineteenth extended the franchise to women. The Twenty-Fourth abolished poll taxes. Each amendment was a recognition that the original engineering was incomplete—that some positions of power remained unridged, that some forms of exploitation remained structurally unconstrained.

And the system remains vulnerable. The structural analysis of this series predicts that cynical operators will continuously probe for vulnerabilities in any institutional design,

finding new ways to exploit positions that the original architects did not anticipate. Money in politics creates channels through which economic power can capture governmental authority despite the Constitution's formal separation of the two. Partisan gerrymandering undermines the electoral accountability that regular elections were designed to provide. Executive power has expanded far beyond what the original design contemplated, concentrating authority in a single position in ways that make the presidency a more valuable capture target. The Supreme Court's life tenure, designed to insulate judicial independence, can also insulate captured judicial positions from accountability for decades. Media consolidation can compromise the independent information flows that the First Amendment was designed to protect.

None of this invalidates the engineering approach. It demonstrates that institutional engineering is iterative—that ridges must be added, modified, and reinforced as cynical operators discover new methods of exploitation. The fact that coins can be counterfeited by new methods does not mean that putting ridges on coins was a mistake. It means that the ridges must be updated as the technology of fraud evolves. The same is true of institutional ridges. The Founders built the most sophisticated set of structural constraints on governmental power that had ever been designed. Those constraints were imperfect and they remain imperfect. The task is to improve them, not to abandon the engineering approach in favor of ideological fantasies about human perfectibility or revolutionary fantasies about abolishing hierarchy altogether.

IV. The Global Condition: Articles of Confederation 2.0

If the preceding analysis is correct—if the cage is permanent, if hierarchy is structurally necessary, if cynical operators will always capture positions of authority, and if institutional engineering is the only realistic response—then the most urgent engineering challenge is not at the national level but at the global one. Because the international order, as presently constituted, has no ridges at all.

The United Nations, established in 1945, is structurally analogous to the Articles of Confederation that governed the United States from 1781 to 1789. The parallels are not approximate. They are precise.

Under the Articles of Confederation, the American states created a Congress with the authority to negotiate treaties, declare war, and manage relations among the states. But Congress could not levy taxes—it could only request contributions from the states, which were frequently not forthcoming. Congress could not regulate commerce between the states, leading to conflicting trade policies and economic chaos. Congress could not enforce its own decisions—states could ignore or defy national directives without consequence. Congress could not raise a standing army—it depended on the states for troops, which were often withheld. Any amendment to the Articles required unanimous consent, making reform structurally impossible since any single state could block change. There was no independent executive to enforce laws and no national judiciary to resolve disputes.

The United Nations operates under virtually identical structural constraints. The General Assembly can pass resolutions, but they are non-binding—member states can ignore them without consequence. The UN cannot levy taxes or generate independent revenue—it depends on assessed contributions from member states, which are frequently withheld or paid late. The UN cannot regulate international commerce, trade, or financial flows. The UN cannot enforce its own resolutions against the wishes of any permanent Security Council member, because the veto power gives each of the five permanent members the ability to block any enforcement action—a structural equivalent of the Articles' unanimity requirement. The UN has no standing military force—it depends on voluntary troop contributions from member states. The

International Court of Justice issues rulings that nations routinely ignore. The UN Charter can be amended only with the approval of two-thirds of the General Assembly and all five permanent Security Council members, making structural reform nearly impossible.

The Articles of Confederation produced exactly the outcome the structural framework predicts for an institution with no ridges: paralysis, inability to coordinate, exploitation by powerful actors, and eventual collapse. States pursued their own interests at the expense of collective welfare. Powerful states dominated weaker ones. Foreign powers exploited the Confederation's inability to present a unified front. The system could not respond to crises—Shays' Rebellion in 1786 demonstrated that the Confederation government could not even maintain domestic order when a group of indebted farmers took up arms in western Massachusetts.

The international system under the United Nations produces the same outcomes at global scale. Nations pursue their own interests at the expense of collective welfare—climate change is the most consequential example, where every nation has an incentive to free-ride on others' emissions reductions. Powerful nations dominate weaker ones through economic coercion, military intervention, and exploitation of trade relationships—with no institutional mechanism to constrain them. The Security Council veto allows captured great-power governments to shield their exploitation from international accountability. The system cannot respond to genuinely global crises—pandemics, climate change, nuclear proliferation, financial contagion—because it lacks the enforcement authority that effective response requires.

The Founders of the American Republic recognized, after six years of experience with the Articles, that a voluntary confederation of sovereign entities cannot maintain collective coordination, cannot constrain powerful actors, and cannot respond to crises. Their solution was not to reform the Articles but to replace them with a fundamentally different architecture—a federal constitution that created a government with independent authority, independent revenue, enforcement capacity, separation of powers, and structural constraints on the exploitation of governmental power. The international community has not yet reached this recognition, though the evidence

supporting it accumulates with every climate summit that produces voluntary commitments no nation is bound to honor, every Security Council resolution vetoed to protect a powerful state's interests, and every humanitarian crisis that the UN can condemn but cannot stop.

V. Toward Ridges on the World: A Thought Experiment

What follows is not a detailed constitutional proposal. It is a thought experiment—an exploration of what the engineering approach, applied at the global level, would require. The purpose is not to prescribe specific institutions but to identify the structural principles that any effective global governance architecture would need to embody, based on the analysis developed across this paper series.

Principle One: Accept the Cage

Any realistic global governance framework must begin by accepting what the preceding papers have demonstrated: that hierarchy is a structural requirement of coordination at scale, that positions of authority within that hierarchy will be captured by cynical operators, and that the task is not to design a system without hierarchy but to design one whose hierarchy is structurally constrained against the specific forms of exploitation that the historical record documents.

This means rejecting, at the outset, several categories of proposal that are popular in academic and activist circles but that the structural analysis identifies as fantasies. World government that abolishes national sovereignty entirely would merely concentrate all global authority in a single institutional apparatus—the ultimate capture target. Voluntary international cooperation without enforcement mechanisms is the Articles of Confederation problem: it works only when no participant has an incentive to defect, which is precisely when you do not need it. Direct global democracy without institutional mediation would, at a population of eight billion, be subject to every manipulation mechanism this series has documented, operating at a scale that makes accountability effectively impossible.

The starting point must be structural realism: a global governance architecture that accepts hierarchy, expects capture, and engineers against it.

Principle Two: Engineer Against Concentration

The most important lesson from both the historical analysis and the American constitutional experience is that the separation and distribution of power is the primary

structural defense against capture. Any global framework must distribute authority across multiple independent institutions with competing interests and overlapping jurisdiction, so that no single captured position can dominate the system.

The American model suggests a minimum architecture: an executive function (implementing decisions and coordinating responses to crises), a legislative function (establishing rules through representative deliberation), and a judicial function (interpreting rules and adjudicating disputes). The global framework would need all three—and critically, each would need structural independence from the others, with its own basis of authority and its own mechanisms for selecting officeholders.

Federalism—the vertical distribution of authority between global and national levels—would be equally essential. A global framework that attempted to govern everything from the center would be both practically impossible and structurally dangerous. The principle of subsidiarity—that decisions should be made at the lowest level competent to address them—is not merely an administrative convenience but a structural ridge. It limits what any global institution can do, preserving national and local authority over matters that do not require global coordination, and thus limiting the value of capturing any single global position.

Principle Three: Independent Revenue and Enforcement

The fatal weakness of the Articles of Confederation was its dependence on voluntary compliance by member states. The UN replicates this weakness exactly. Any effective global framework would need what the American Constitution provided: the capacity to generate revenue independently of member states and the authority to enforce its decisions without requiring member-state consent in each instance.

This is the most politically difficult principle to implement, because it requires national governments to accept constraints on their sovereignty. But the structural analysis demonstrates why it is necessary: without independent enforcement capacity, a governance framework has no ridges. It can be defied by any sufficiently powerful actor, which means that it constrains only those too weak to resist—precisely the population that needs its protection most.

The American experience demonstrates that independent revenue and enforcement are compatible with distributed authority and structural constraints. The federal government can levy taxes and enforce laws, but it cannot do whatever it wants—its authority is limited to enumerated powers, constrained by the Bill of Rights, checked by judicial review, and subject to democratic accountability. The challenge for global governance is to create enforcement capacity that is similarly constrained—powerful enough to be effective, ridged enough that it cannot be exploited.

Principle Four: Structural Transparency

The companion paper on *The Information Asymmetry Theory of Scaled Domination* demonstrates that information monopoly is the primary mechanism through which elites maintain control over populations. Any global governance framework must therefore incorporate structural transparency as a design principle—not as an aspiration but as an architectural feature.

This means mandatory public access to decision-making processes, mandatory disclosure of the financial interests of officeholders, mandatory public reporting of institutional performance against stated objectives, and structural protection for independent media and information channels that can monitor institutional behavior. These are ridges on the information coin. They do not prevent cynical operators from attempting to exploit information advantages. They make it structurally harder to succeed, because the architecture of the institution exposes the fraud—just as the ridges on a coin expose the clipping.

Principle Five: Eliminate the Veto

The Security Council veto is the global equivalent of the Articles of Confederation's unanimity requirement. It gives five nations—whose governments are themselves subject to capture by cynical operators—the structural ability to block any collective action that threatens their interests. This is not a ridge. It is the absence of a ridge. It is a smooth-edged coin that powerful actors can clip at will.

Any effective global governance framework must replace the veto with a decision-making mechanism that prevents domination by powerful states while still enabling collective action. The American Constitution addressed the analogous problem through bicameralism: the Senate gives equal representation to all states regardless of size (protecting small states from domination by large ones), while the House of Representatives allocates seats by population (preventing small states from exercising disproportionate power). A global framework might employ a similar dual-chamber structure—one body representing nations equally, another representing populations proportionally—with decisions requiring concurrent majorities in both.

Principle Six: Build for Perpetual Reform

The *Elite Darwinism* framework demonstrates that institutional capture is not a one-time event but an ongoing process. Cynical operators will continuously probe for vulnerabilities in any institutional design. The response must be an institution designed for perpetual reform—one whose amendment process is difficult enough to prevent casual modification but achievable enough to allow adaptation when new forms of exploitation are identified.

The American Constitution's amendment process—requiring two-thirds of both houses of Congress and three-quarters of state legislatures—has proven too rigid, making it extremely difficult to add ridges as new vulnerabilities emerge. A global framework would need a more responsive amendment mechanism, perhaps requiring supermajorities but not near-unanimity, and perhaps including sunset provisions that force periodic re-evaluation of institutional structures.

VI. Why This Path and Not Others

The argument of this paper will strike many readers, particularly in academic settings, as unfashionable. The intellectual prestige in much of contemporary political theory and social science attaches to critiques of liberal democracy, not defenses of it. Marxist and post-Marxist analysis dominates much of the academy, and its adherents view liberal democracy not as a structural constraint on elite capture but as a legitimating mechanism for it—a more sophisticated cage that conceals domination behind the performance of popular consent. Postcolonial theory views the liberal democratic tradition as inextricable from the imperial project that spread it globally, and therefore as compromised at its foundations. Critical theory of various kinds treats the institutional architecture of liberal democracy as serving the interests of the class that designed it—which, as this paper has acknowledged, it partly does.

These critiques contain genuine insights. Liberal democratic institutions have been used to legitimate exploitation. The tradition is inseparable from its colonial context. The Founders were elites protecting elite interests alongside designing structural constraints on power. All of this is true. But the critiques share a common structural weakness: they are far stronger on diagnosis than on prescription.

Marxist analysis correctly identifies the mechanisms of class exploitation but, as the companion paper *The Misdiagnosis* demonstrates, its prescription—abolish the class structure through revolutionary transformation of economic relations—produces systems that reconstitute every mechanism of domination it was designed to eliminate. The Soviet experiment is the controlled test: seventy-four years of systematic application of Marxist theory produced a new ruling class that exploited the population through information asymmetry, verification override, and authority capture indistinguishable in structure from the Tsarist system it replaced. The content changed. The architecture of domination did not.

Postcolonial critique correctly identifies the violence and hypocrisy of the liberal democratic tradition's global expansion. But it offers no structural alternative for governing populations of millions in a world where the metabolic trap has closed and hierarchical coordination is biologically necessary. Rejecting liberal democracy because

of its colonial associations does not make the coordination problem disappear. It merely removes from consideration the most developed set of structural constraints on elite capture that any political tradition has produced.

Critical theory correctly identifies the ways in which institutional structures serve the interests of those who designed them. But the engineering approach this paper advocates is precisely the response that critique demands. If the original ridges were designed to protect elite interests, the solution is not to abandon ridges altogether—which leaves the coin smooth and maximally exploitable—but to add ridges that constrain the forms of exploitation the original designers did not address or actively facilitated. The Thirteenth, Fourteenth, Fifteenth, and Nineteenth Amendments were exactly this: ridges added to an institutional architecture that had been engineered with blind spots, correcting the engineering rather than abandoning it.

The liberal democratic tradition is not recommended here because it is morally superior to its alternatives or because the civilization that produced it has a superior claim to political wisdom. It is recommended because it is the only political tradition that has developed its institutional architecture on the premise that this paper series has spent tens of thousands of words demonstrating: that the people who hold power will try to exploit it, and that the solution is to engineer the architecture of power so that exploitation is structurally constrained. Every other major political tradition—Marxism, theocracy, monarchy, authoritarian developmentalism—either assumes that the right people in power will solve the problem (they will not, because Elite Darwinism ensures they are replaced by the wrong people) or assumes that changing the economic structure will make the problem disappear (it will not, because the problem is rooted in the coordination requirements of complex civilization, not in any particular economic arrangement).

Only the liberal democratic tradition starts from the premise that men are not angels and engineers accordingly. That is not an argument for any particular liberal democratic system as it currently exists. It is an argument for the engineering methodology that the tradition embodies.

VII. The Hardest Question: Is It Possible?

The transition from the Articles of Confederation to the American Constitution required a set of conditions that may have no parallel at the global level. The thirteen states shared a common language, a common revolutionary experience, a common enemy (Britain remained a threat), and a common cultural inheritance. Even with these advantages, ratification was fiercely contested, nearly failed, and required a series of political compromises that embedded structural injustices (most notably the accommodation of slavery) that took a civil war and centuries of subsequent struggle to partially address.

The global community shares none of these advantages. There is no common language, no common revolutionary experience, no common cultural inheritance, no shared enemy sufficient to compel cooperation. The power disparities between nations are vastly greater than those between the American states in 1787. The ideological differences are deeper. The practical challenges of designing institutions that could function across such diversity are orders of magnitude more complex.

And yet the structural logic is identical. The Articles of Confederation failed because voluntary cooperation among sovereign entities cannot solve collective action problems when individual entities have incentives to defect. The UN system fails for exactly the same reason. The American Founders recognized that the choice was not between the Articles and some ideal alternative but between the Articles and a federal constitution—between a system they knew did not work and a system that might, if engineered with sufficient care, constrain the exploitation it could not eliminate.

The global community faces the same choice. The current system—sovereign nation-states cooperating voluntarily through an institutional framework with no enforcement capacity—demonstrably cannot address the collective challenges that threaten human civilization: climate change, nuclear proliferation, pandemic disease, financial contagion, the unregulated development of technologies whose consequences are global. Each of these problems has the same structure: individual actors (nations, corporations, individuals) acting in their own interest produce outcomes that damage

the collective, and no institutional mechanism exists to constrain the behavior because the international order has no ridges.

Whether the transition from Articles to Constitution is politically achievable at the global level is a question this paper cannot answer. It may require a crisis comparable to Shays' Rebellion—a demonstration of the current system's inability to respond to existential threat—to create the political will for structural transformation. It may require decades or centuries of incremental development, with regional federations (the European Union is an imperfect example) gradually expanding and merging. It may require visionary leadership of a kind that appears only rarely in human history.

But the structural analysis is clear: the current architecture has no ridges. Powerful actors clip the coin at will. The international order is a smooth-edged seventeenth-century coin in a world that desperately needs the milled edges of institutional engineering. Whether we achieve the transition or not, understanding what is needed is the prerequisite for any movement in the right direction.

VIII. Conclusion: The Engineering Mindset

The papers in this series have traced a single thread through the architecture of human civilization. Advanced societies require hierarchical coordination. Hierarchy creates positions of authority. Positions of authority attract cynical operators. Cynical operators capture institutions and convert them from instruments of coordination into instruments of personal enrichment. Revolutions destroy captured institutions but must rebuild them to prevent societal collapse. The rebuilt institutions are captured again. The cycle is permanent.

This paper has argued that the appropriate response is neither despair nor revolution but engineering—the design of institutional architectures that accept the permanence of the cycle and build structural constraints on each of its stages. The coin will always attract clippers. Put ridges on the coin. The presidency will always attract power-seekers. Limit its term, check its authority, subject its actions to independent review. The international order will always tempt powerful nations to exploit weaker ones. Build enforcement mechanisms that powerful nations cannot override at will.

John Locke, standing in the 1690s amid a monetary crisis caused by the predictable behavior of self-interested actors exploiting an unridged system, did not waste time lamenting human nature. He did not call for a new man or a new consciousness. He asked a practical question: How do we design the coin so that the behavior we know will occur cannot produce the outcome we want to prevent?

That is the question this series has been building toward. Not: How do we create a world without cages? We cannot. Not: How do we ensure that only virtuous people hold power? We cannot. Not: How do we abolish hierarchy? We cannot, not without abolishing the coordination that keeps billions alive.

The question is: How do we put ridges on the institutions of governance—national and global—so that the cynical operators who will inevitably capture positions of authority find that those positions have been engineered to limit what they can do with them?

It is an engineering problem. And it is the most important engineering problem our species faces, because every other problem—climate, disease, war, poverty, the

unregulated development of transformative technologies—requires institutional capacity to address, and institutional capacity without institutional ridges is simply a new set of smooth-edged coins waiting to be clipped.

We know how to make ridged coins. We have been doing it since 1662. The task now is to apply the same engineering mindset to the institutions that govern eight billion people—to build the cages we need with the ridges that limit their exploitation, to accept the permanent tension between coordination and domination, and to commit ourselves to the perpetual work of adding ridges as cynical operators discover new methods of clipping.

The cage is permanent. The ridges are our only freedom within it. Let us engineer them well.

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Companion Papers in This Series

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Bryan, Thomas J. "The Information Asymmetry Theory of Scaled Domination." Working Paper, 2026.

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